

Appl No. 10/615,996
Amdt. Dated August 7, 2006
Reply to Final Office Action of May 30, 2006

Attorney Docket No. 81784.0278
Customer No.: 26021

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Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented): A tilt control method for controlling the tilt, with respect to an optical disc, of an objective lens in an optical pickup for recording or playing back signals through the objective lens, comprising:

a tilt control circuit for controlling the tilt of said objective lens by controlling the amount of current to a tilt adjustment coil; and

a focusing control circuit for adjusting the focus of the objective lens by controlling the current to a focusing coil;

a preprocessing procedure comprising the steps of:

detecting, at least at two different positions along a radial direction on the optical disc during recording or playback of signals to or from said optical disc, a DC voltage value from a focusing drive signal that is supplied to said focusing coil; and

obtaining from respective detected DC voltage values a relationship between a position on said optical disc where recording or playback is being performed and the DC voltage value of said focusing drive signal;

actual recording or playback procedure comprising the steps of:

detecting a recording or playback position to obtain a corresponding DC voltage value during recording or playback of signals to or from said optical disc; and

controlling the amount of current that is supplied to said tilt adjustment coil on the basis of a signal in which the obtained DC voltage value is added to an AC signal included in the drive signal that is supplied to said focusing coil at the time.

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2. (Original): A method according to claim 1, wherein:
in said preprocessing procedure, at two positions of inside position and outside position on the optical disc, the DC voltage of the focusing drive signal is detected, and said relationship is obtained from the detected result.

3. (Original): A method according to claim 2, wherein:
said inside position is the innermost position that can be recorded or played back on said optical disc, and said outside position is the outermost position that can be recorded or played back on said optical disc.

4. (Original): A method according to claim 1, wherein:
in said preprocessing procedure, at three positions of inside position, outside position, and intermediate position on the optical disc, the DC voltage of the focusing drive signal is detected, and said relationship is obtained from the detected result.

5. (Original): A method according to claim 4, wherein:
said inside position is the innermost position that can be recorded or played back on said optical disc, and said outside position is the outermost position that can be recorded or played back on said optical disc.

6. (Original): A method according to claim 1, wherein:
a recording or playback position of signals for said optical disc is detected on the basis of positional information that has been recorded on said optical disc.

7. (Original): A method according to claim 1, wherein:

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a recording or playback position of signals for said optical disc is detected according to revolutions of the motor moving said optical pickup.

8. (Previously Presented): A control apparatus for an optical pickup for performing recording or playback of signals by emitting light onto an optical disc from an objective lens, comprising:

a tilt coil for adjusting the tilt of said objective lens;

a focusing coil for adjusting the focus of light from said objective lens;

a position detecting apparatus for detecting the recording or playback position along a radial direction with respect to said optical disc;

means for providing a DC voltage value corresponding to the detected recording or playback position;

a tracking coil driver circuit 8 inputs the tracking control signal that is output from the pickup control circuit 7 and is configured so as to supply a drive signal to the tracking coil 5 that is built into the optical pickup 2. A focusing coil driver circuit 9 inputs the focusing control signal that is output from the pickup control circuit 7 and is configured so as to supply a drive signal to the focusing coil 4 that is built into the optical pickup 2;

a relationship storage section for storing the relationship between the radial position detected by said position detecting apparatus and a DC component of said focusing drive signal, and outputting said DC component corresponding to the detected result of said position detecting apparatus;

an AC component extractor for extracting the AC component from the focusing drive signal for controlling the focus of the optical pickup; and

a tilt control circuit for adding said DC component that is output from said relationship storage section and said AC component that is output from said

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AC component extractor, and controlling the tilt of the optical pickup by controlling the current of said tilt coil on the basis of the obtained addition signal.

9. (Original): An apparatus according to claim 8, wherein:
a recording or playback position of signals for said optical disc is detected on the basis of positional information that has been recorded on said optical disc.
10. (Previously Presented): An apparatus according to claim 8, wherein:
a recording or playback position of signals for said optical disc is detected according to revolutions of the motor moving said optical pickup.